

WHAT IS CLAIMED IS:

1. HEC-GlcNAc6ST present in other than its natural environment.
- 5 2. The HEC-GlcNAc6ST according to Claim 1, wherein said HEC-GlcNAc6ST is human HEC-GlcNAc6ST or mouse HEC-GlcNAc6ST.
3. A fragment of the HEC-GlcNAc6ST according to Claim 1.
- 10 4. A nucleic acid present in other than its natural environment, wherein said nucleic acid has a nucleotide sequence encoding HEC-GlcNAc6ST.
5. A fragment of the nucleic acid according to Claim 4.
- 15 6. An expression cassette comprising a transcriptional initiation region functional in an expression host, a nucleic acid having a nucleotide sequence found in the nucleic acid according to Claim 4 under the transcriptional regulation of said transcriptional initiation region, and a transcriptional termination region functional in said expression host.
- 20 7. A cell comprising an expression cassette according to Claim 6 as part of an extrachromosomal element or integrated into the genome of a host cell as a result of introduction of said expression cassette into said host cell, or the cellular progeny thereof.
8. A method of producing HEC-GlcNAc6ST, said method comprising:
25 growing a cell according to Claim 7, whereby said HEC-GlcNAc6ST is expressed; and isolating said HEC-GlcNAc6ST substantially free of other proteins.
9. A monoclonal antibody binding specifically to HEC-GlcNAc6ST.

10. A method for inhibiting a binding event between a selectin and a selectin ligand, said method comprising:

contacting said selectin with a non-sulfated selectin ligand, a sulfotransferase selected from the group consisting of HEC-GlcNAc6ST and KSGal6ST, and an agent that inhibits the sulfation activity of said sulfotransferase.

11. A method of inhibiting a selectin mediated binding event in a mammalian host, said method comprising:

administering to said host an effective amount of a pharmaceutical composition comprising an active agent that modulates the sulfation activity of a sulfotransferase selected from the group consisting of HEC-GLCNAC6ST and KSGal6ST and homologues thereof.

12. A method of modulating a symptom in a mammalian host of a disease condition associated with a selectin mediated binding event, said method comprising:

administering to said host a pharmaceutical composition comprising an effective amount of an active agent that modulates the sulfation activity of a sulfotransferase selected from the group consisting of HEC-GLCNAC6ST and KSGal6ST and homologues thereof.

13. A method of diagnosing a disease state in a host related to the abnormal levels of sulfotransferase selected from the group consisting of HEC-GlcNAc6ST and KSGal6ST, said method comprising:

determining the amount of an analyte in a sample from said host, wherein said analyte is selected from the group consisting of said sulfotransferase or a nucleic acid related thereto; and comparing the amount of said analyte in said host sample to a control value.

14. A method of determining whether an agent is capable of modulating the activity of a sulfotransferase selected from the group consisting of HEC-GlcNAc6ST and KSGal6ST, said method comprising:

contacting a sulfotransferase with a sulfate source, an acceptor compound and said agent; and

determining the affect of said agent on said sulfotransferase activity.

15. A non-human transgenic animal model for *HEC-GlcNAc6ST* gene function, wherein said transgenic animal comprises an introduced alteration in a *HEC-GlcNAc6ST* gene.